

GENERIC NAME:

GLUCAGON

112.14

BRAND NAME: Glucagon

CLASS: pancreatic hormone, polypeptide, hyperglycemic agent

Mechanism of Action:

Pharmacologic: Acts only on liver glycogen, converting it to glucose. Counteracts the effect of insulin. Relaxes GI smooth muscle causing dilation and decreased motility. Cardiac inotrope.

Clinical effects: May reverse hypoglycemia (if patient has glycogen stored in liver) within 4-8 minutes (could be as long as 15 or more).

Indications and Field Use:

Symptomatic hypoglycemia when IV access is delayed.

Contraindications:

Known hypersensitivity

Pheochromocytoma

Insulinoma

Should not be routinely used to replace dextrose when IV access has been obtained

Adverse Reactions:

Rare side effects

Nausea and vomiting

Generalized allergic reactions including urticaria, respiratory distress and hypotension (made from beef/pork pancreas)

Palpitations, hypertension, tachycardia

NOTES ON ADMINISTRATION

Incompatibilities/Drug Interactions:

Unknown

Adult Dosage: (children and adults greater than 20 kg or 44 lbs)

Hypoglycemia: 1 mg IM, may repeat in 7-10 minutes

Pediatric Dosage: (for children under 20 kg or 44 lbs)

Hypoglycemia: 0.5 mg IM or a dose equivalent to 20-30 Fg/kg, may repeat in 7-10 minutes

Routes of Administration:

Hypoglycemia: IM or SC administration avoids possibility of inducing encephalopathy in a thiamine-deficient patient

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Onset of Action: (dose and route dependent)

1 mg IM, 8-10 minutes
IV, 1 minute

Peak Effects: (dose and route dependent)

1 mg IM, 12-14 minutes
IV, 3-6 minutes

Duration of Action: (dose and route dependent)

1 mg IM, 12-27 minutes
IV, 20 minutes

Dosage Forms/Packaging:

1 mg (1 unit) with 1 mL vial of diluting solution
1 mg (1 unit) with prefilled syringe of diluting solution (Glucagon Emergency Kit)

Arizona Drug Box Supply Range:

PARAMEDIC: 1 - 2 units
INTERMEDIATE: 1 - 2 units

Special Notes:

- > Blood sugar should be measured rapidly before deciding upon the administration of D₅₀ or glucagon, especially in the non-diabetic patient.
- > Documented hypoglycemia is a true medical emergency, IM glucagon should be administered rapidly if IV access is delayed.
- > In known alcoholics, administer thiamine in addition to glucagon to prevent inducing an encephalopathy in a thiamine-deficient patient.
- > Patients with Type I diabetes do not have as great a response in blood glucose levels as Type II stable patients. For all patients having hypoglycemic episode, supplementary complex carbohydrates should be eaten within ½ hour, especially in a child or adolescent.